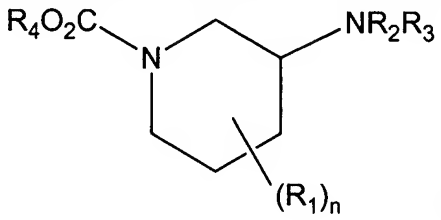
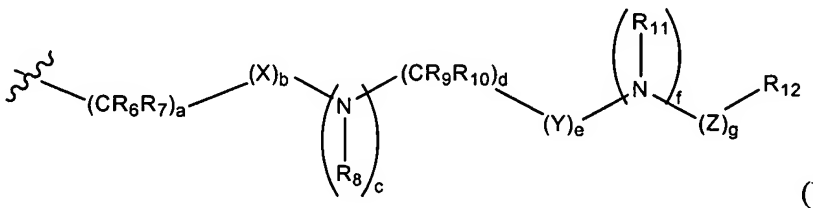
AMENDMENTS TO THE CLAIMS

1. (ORIGINAL) A method of making a compound of formula (Ia)



(Ia)

wherein R_1 is carboxy, cyano, deuterium, (C_1-C_6)alkyl, (C_1-C_6)alkoxy, (C_1-C_6)acyl, (C_1-C_6)alkylamino, amino(C_1-C_6)alkyl, (C_1-C_6)alkoxy-CO-NH, (C_1-C_6)alkylamino-CO-, (C_2-C_6)alkenyl, (C_2-C_6) alkynyl, (C_1-C_6)alkylamino, amino(C_1-C_6)alkyl, (C_1-C_6)alkoxy(C_1-C_6)alkyl, (C_1-C_6)acyloxy(C_1-C_6)alkyl, nitro, cyano(C_1-C_6)alkyl, nitro(C_1-C_6)alkyl, trifluoromethyl, trifluoromethyl(C_1-C_6)alkyl, (C_1-C_6)acylamino, (C_1-C_6)acylamino(C_1-C_6)alkyl, (C_1-C_6)alkoxy(C_1-C_6)acylamino, amino(C_1-C_6)acyl, amino(C_1-C_6)acyl(C_1-C_6)alkyl, (C_1-C_6)alkylamino(C_1-C_6)acyl, ((C_1-C_6)alkyl)$_2$amino(C_1-C_6)acyl, $R_{15}R_{16}$N-CO-O-, $R_{15}R_{16}$N-CO-(C_1-C_6)alkyl, (C_1-C_6)alkyl-S(O)$_m$, $R_{15}R_{16}$NS(O)$_m$, $R_{15}R_{16}$NS(O)$_m$ (C_1-C_6)alkyl, R_{15}S(O)$_m$ R_{16}N, R_{15}S(O)$_m$$R_{16}$N($C_1$-$C_6$)alkyl or a group of the formula (VII)



(VII);

R_2 is hydrogen, (C_1-C_6)alkyl, (C_1-C_6)alkylsulfonyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by deuterium, hydroxy, trifluoromethyl, (C_1-C_4)alkoxy, (C_1-C_6)acyloxy, (C_1-C_6)alkylamino, ((C_1-C_6)alkyl)$_2$amino, cyano, nitro, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl or (C_1-C_6)acylamino; or $R_2$is (C_3-C_{10})cycloalkyl wherein the cycloalkyl group is optionally substituted by deuterium, hydroxy, trifluoromethyl, (C_1-C_6)acyloxy, (C_1-C_6)acylamino, (C_1-C_6)alkylamino, ((C_1-C_6)alkyl)$_2$amino, cyano, cyano(C_1-C_6)alkyl, trifluoromethyl(C_1-C_6)alkyl, nitro, nitro(C_1-C_6)alkyl or (C_1-C_6)acylamino;

R_3 is hydrogen, (C_1-C_6)alkyl, (C_3-C_{10})cycloalkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by

deuterium, hydroxy, halogen, trifluoromethyl, $(C_1$-$C_4)$alkoxy, $(C_1$-$C_6)$acyloxy, $(C_1$-$C_6)$alkylamino, $(C_1$-$C_6)$acylamino, $((C_1$-$C_6)$alkyl$)_2$amino, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, cyano, cyano$(C_1$-$C_6)$alkyl, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl ;

R_4 is $(C_1$-$C_6)$alkyl, $(C_3$-$C_{10})$cycloalkyl, $(C_2$-$C_6)$alkenyl, or $(C_2$-$C_6)$alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by deuterium, hydroxy, halogen, amino, trifluoromethyl, $(C_1$-$C_4)$alkoxy, $(C_1$-$C_6)$acyloxy, $(C_1$-$C_6)$alkylamino, $(C_1$-$C_6)$acylamino, $((C_1$-$C_6)$alkyl$)_2$amino, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, cyano, cyano$(C_1$-$C_6)$alkyl, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl;

R_6, R_7, R_8, R_9, R_{10} and R_{11} are each independently hydrogen or $(C_1$-$C_6)$alkyl optionally substituted by deuterium, hydroxy, trifluoromethyl, $(C_1$-$C_6)$acyloxy, $(C_1$-$C_6)$acylamino, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)$alkyl$)_2$amino, cyano, cyano$(C_1$-$C_6)$alkyl, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, nitro$(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$acylamino; R_{12} is carboxy, cyano, amino, oxo, deuterium, hydroxy, trifluoromethyl, $(C_1$-$C_6)$alkyl, trifluoromethyl$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$acyl, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)$alkyl$)_2$ amino, amino$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy-CO-NH, $(C_1$-$C_6)$alkylamino-CO-, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$ alkynyl, $(C_1$-$C_6)$alkylamino, hydroxy$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$acyloxy$(C_1$-$C_6)$alkyl, nitro, cyano$(C_1$-$C_6)$alkyl, nitro$(C_1$-$C_6)$alkyl, trifluoromethyl, trifluoromethyl$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$acylamino, $(C_1$-$C_6)$acylamino$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy$(C_1$-$C_6)$acylamino, amino$(C_1$-$C_6)$acyl, amino$(C_1$-$C_6)$acyl$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkylamino$(C_1$-$C_6)$acyl, $((C_1$-$C_6)$alkyl$)_2$amino$(C_1$-$C_6)$acyl, $R_{15}R_{16}$N-CO-O-, $R_{15}R_{16}$N-CO-$(C_1$-$C_6)$alkyl, R_{15}C(O)NH, R_{15}OC(O)NH, R_{15}NHC(O)NH, $(C_1$-$C_6)$alkyl-S(O)$_m$, $(C_1$-$C_6)$alkyl-S(O)$_m$-$(C_1$-$C_6)$alkyl, $R_{15}R_{16}$NS(O)$_m$, $R_{15}R_{16}$NS(O)$_m$ $(C_1$-$C_6)$alkyl, R_{15}S(O)$_m$ R_{16}N, or R_{15}S(O)$_m R_{16}$N$(C_1$-$C_6)$alkyl;

R_{15} and R_{16} are each independently hydrogen or $(C_1$-$C_6)$alkyl;

X is S(O)$_p$, oxygen, carbonyl or –C(=N-cyano)-;

Y is S(O)$_p$ or carbonyl;

Z is S(O)$_p$, carbonyl, C(O)O-, or C(O)NR-;

a is 0, 1, 2, 3 or 4;

b, c, e, f and g are each independently 0 or 1;

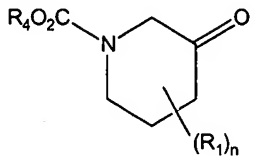
d is 0, 1, 2, or 3;

m is 0, 1 or 2;

n is 1, 2, 3, or 4;

p is 0, 1 or 2; and

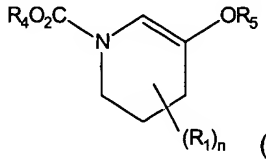
wherein the method comprises reacting NHR_2R_3, $N(CH_3)R_2H$, or $N(CH_2CH_3)R_2H$ with a compound of formula (IIa)



(IIa)

and reducing the compound so formed with a reducing agent.

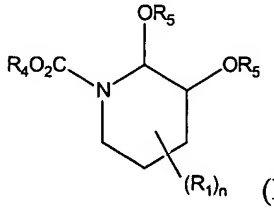
2. (ORIGINAL) The method of claim 1, wherein the method further comprises formation of the compound of the formula (IIa) by reacting a compound having the formula R_4OH, water, or R_4NH_2 and a compound of the formula (IIIa)



(IIIa)

wherein R_5 is $CO(C_1\text{-}C_6)$alkyl.

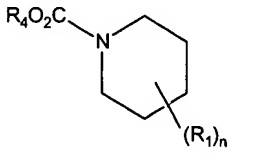
3. (ORIGINAL) The method of claim 2, wherein the method further comprises formation of the compound of the formula (IIIa) by heating a compound having the formula (IVa)



(IVa)

with a compound having the formula$(C_1\text{-}C_6)$alkyl-(C=O)-O-(C=O)-$(C_1\text{-}C_6)$alkyl.

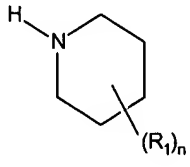
4. (ORIGINAL) The method of claim 3, wherein the method further comprises formation of the compound of the formula (IVa) by oxidizing a compound having the formula (Va)



(Va)

under oxidizing conditions.

5. (ORIGINAL) The method of claim 4, wherein the method further comprises formation of the compound of the formula (Va) by reacting a compound having the formula WCO_2R_4 and a compound having the formula (VIa)

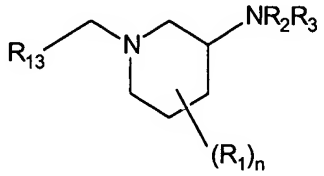


(VIa)

wherein W is halogen.

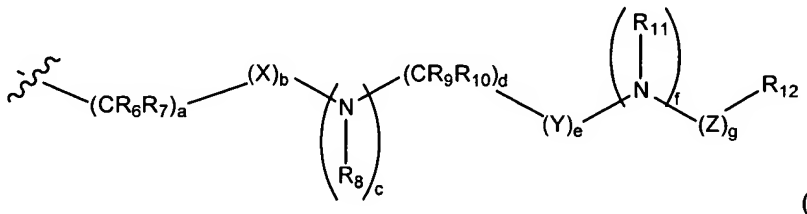
6. (ORIGINAL) The method of claim 4, wherein the oxidizing conditions are an electrochemical oxidation.

7. (ORIGINAL) A method of making a compound having the formula (Ib)



(Ib)

wherein R_1 is carboxy, amino, deuterium, hydroxy, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, $(C_1\text{-}C_6)$alkylamino, amino$(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$ alkynyl, $(C_1\text{-}C_6)$alkylamino, amino$(C_1\text{-}C_6)$alkyl, hydroxy$(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy$(C_1\text{-}C_6)$alkyl, nitro, nitro$(C_1\text{-}C_6)$alkyl, trifluoromethyl, trifluoromethyl$(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkyl-$S(O)_m$, $R_{15}R_{16}NS(O)_m$, $R_{15}R_{16}NS(O)_m$ $(C_1\text{-}C_6)$alkyl, $R_{15}S(O)_m$ $R_{16}N$, $R_{15}S(O)_mR_{16}N(C_1\text{-}C_6)$alkyl or a group of the formula (VII)



(VII);

R_2 is hydrogen, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkylsulfonyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by deuterium, hydroxy, amino, trifluoromethyl, $(C_1\text{-}C_4)$alkoxy, $(C_1\text{-}C_6)$alkylamino, $((C_1\text{-}C_6)\text{alkyl})_2$amino, nitro, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl; or R_2 is $(C_3\text{-}C_{10})$cycloalkyl wherein the cycloalkyl group is optionally substituted by deuterium, hydroxy, amino,

trifluoromethyl, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)alkyl)_2$amino, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl;

R_3 is hydrogen, $(C_1$-$C_6)$alkyl, $(C_3$-$C_{10})$cycloalkyl, $(C_2$-$C_6)$alkenyl, or $(C_2$-$C_6)$alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by deuterium, hydroxy, amino, trifluoromethyl, $(C_1$-$C_4)$alkoxy, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)alkyl)_2$amino, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl;

R_6, R_7, R_8, R_9, R_{10} and R_{11} are each independently hydrogen or $(C_1$-$C_6)$alkyl optionally substituted by deuterium, hydroxy, amino, trifluoromethyl, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)alkyl)_2$amino, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl; R_{12} is carboxy, amino, deuterium, hydroxy, trifluoromethyl, $(C_1$-$C_6)$alkyl, trifluoromethyl$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)alkyl)_2$ amino, amino$(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$ alkynyl, $(C_1$-$C_6)$alkylamino, hydroxy$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy$(C_1$-$C_6)$alkyl, nitro, nitro$(C_1$-$C_6)$alkyl, trifluoromethyl, trifluoromethyl$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkyl-$S(O)_m$, $(C_1$-$C_6)$alkyl-$S(O)_m$-$(C_1$-$C_6)$alkyl, $R_{15}R_{16}NS(O)_m$, $R_{15}R_{16}NS(O)_m$ $(C_1$-$C_6)$alkyl, or $R_{15}S(O)_m R_{16}N$, or $R_{15}S(O)_m R_{16}N(C_1$-$C_6)$alkyl;

R_{13} is $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_6$-$C_{10})$aryl, $(C_1$-$C_6)$carboalkoxy, $(C_5$ - $C_9)$heteroaryl, $(C_6$-$C_{10})$aryl$(C_1$-$C_6)$alkyl, or $(C_5$-$C_9)$heteroaryl$(C_1$-$C_6)$alkyl wherein the R_{13} group is optionally substituted by deuterium, hydroxy, amino, trifluoromethyl,, $(C_1$-$C_6)$alkyl, $(C_1$-$C_4)$alkoxy, $(C_1$-$C_6)$alkylamino, $((C_1$-$C_6)alkyl)_2$amino, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, trifluoromethyl$(C_1$-$C_6)$alkyl, nitro, or nitro$(C_1$-$C_6)$alkyl;

R_{15} and R_{16} are each independently hydrogen or $(C_1$-$C_6)$alkyl;

X is $S(O)_p$;

Y is $S(O)_p$;

Z is $S(O)_p$;

a is 0, 1, 2, 3 or 4;

b, c, e, f and g are each independently 0 or 1;

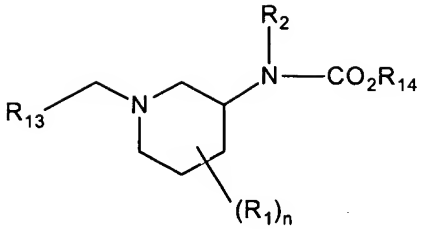
d is 0, 1, 2, or 3;

m is 0, 1 or 2;

n is 1, 2, 3, or 4;

p is 0, 1 or 2; and

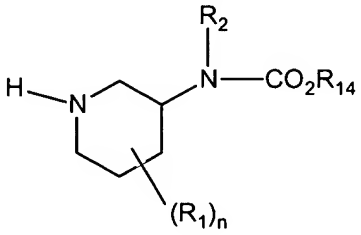
wherein the method comprises reducing a compound of formula (IIb)



(IIb)

with a reducing agent, wherein R_{14} is $(C_1\text{-}C_6)$alkyl, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl wherein the alkyl, alkenyl and alkynyl groups are optionally substituted by deuterium, hydroxy, halogen, amino, trifluoromethyl, $(C_1\text{-}C_4)$alkoxy, $(C_1\text{-}C_6)$alkylamino, $((C_1\text{-}C_6)\text{alkyl})_2$amino, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, trifluoromethyl$(C_1\text{-}C_6)$alkyl, nitro, or nitro$(C_1\text{-}C_6)$alkyl.

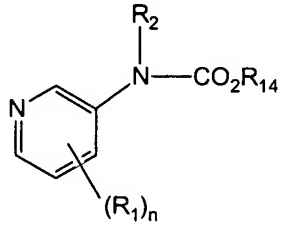
8. (ORIGINAL) The method of claim 7, wherein the method further comprises formation of the compound of the formula (IIb) by reacting a compound having the formula (IIIb)



(IIIb)

with an aldehyde of formula R_{13}-(C=O)-H and reducing the compound so formed with a reducing agent.

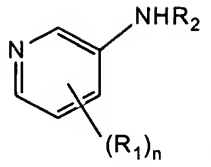
9. (ORIGINAL) The method of claim 8, wherein the method further comprises formation of the compound of the formula (IIIb) by hydrogenating a compound having the formula (IVb)



(IVb)

in the presence of a catalyst.

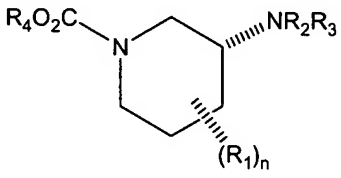
10. (ORIGINAL) The method of claim 9, wherein the method further comprises formation of the compound of the formula (IVb) by reacting a compound having the formula (Vb)



(Vb)

with (R_{14}-O-(C=O))2O or R_{14}-O-(C=O)-X wherein X is halo.

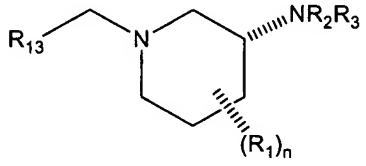
11. (CURRENTLY AMENDED) The method of claim 1, wherein the compound of formula (Ia) has the relative stereochemistry of formula (Ia-1)



(Ia-1);

R_1 is (C_1-C_6)alkyl; n is one; R_2 and R_3 are each hydrogen or (C_1-C_6)alkyl; and R_4 is (C_1-C_6)alkyl.

12. (CURRENTLY AMENDED) The method of claim 7, wherein the compound of formula (Ib) has the relative stereochemistry of formula (Ib-1)



(Ib-1);

R_1 is (C_1-C_6)alkyl; n is one; R_2 and R_3 are each hydrogen or (C_1-C_6)alkyl; and R_{13} is (C_6-C_{10})aryl.

13. (ORIGINAL) The method of claim 1, wherein the reducing agent is a borohydride.

14. (ORIGINAL) The method of claim 7, wherein the reducing agent is lithium aluminum hydride.

15. (ORIGINAL) The method of claim 9, wherein the catalyst is Rh/alumina or Rh/C.